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JEAN GILLES, JUDE				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/790,726

Applicant(s)

HIPPELAINEN, LASSI

Examiner

JUDE J. JEAN GILLES

Art Unit

2443

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 10 and 16 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-9, 11-15 and 17-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/12/2008.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in Reply to communication filed on 10/23/2008.

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 11/12/2008 was filed on same mailing date as the Reconsideration request of the Non-Final Rejection dated 07/25/2008. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Response to Amendment

2. In this Reply, Claims 1, 3, 9, 13-15, 17 and 20-22 have been amended to more particularly point out and distinctly claim the subject matter of the invention. Claims 10 and 16 have been cancelled without prejudice or disclaimer. No new matter has been added. Claims 1-9, 11-15, and 17-22 are pending in this application and represent a method and a system for "IP ADDRESS MANAGEMENT".

Response to Arguments

3. Applicant's arguments with respect to claims 1, 2, 4-9, 11-15, and 17-22 have been considered but are moot in view of the new ground(s) of rejection below, necessitated by applicants argument, mainly that the prior arts of record do not disclose an apparatus wherein "the size of the at least one queue is variable and depends on stack implementations of correspondent nodes of previous users of released

addresses". New prior art of record of Takahashi addresses the option of having a dynamic queue connected to a stack implementation such as a linked address list matching a plurality of destination.

All objections not addressed in Applicant's response are herein reiterated.

In response to Applicant's arguments, 37 CFR § 1.11(c) requires applicant to "clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. He or she must show the amendments avoid such references or objections."

The Examiner notes that applicant does not presenting claims and drawings that delineate the contours of this invention as compared to the cited prior art. Applicant has failed to clearly point out patentable novelty in view of the state of the art disclosed by the references cited that would overcome the 103(a) rejections applied against the claims, the rejection is therefore sustained.

Allowable Subject Matter

4. Previously objected **claim 3** has been amended to incorporate the limitations of claim 1, and is now in condition for allowance. Claim 3 has been allowed.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1, 2, and 4-9, 11-15, and 17-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Baum, U.S. Publication No. 2004/0071164 A1 in view of Donaldson, U.S. Patent No. 6,321,267 B1, in further view of Takashaki et al (Takashaki) U.S. Pub. Number 20020054602.

Regarding **claim 1**, Baum teaches the invention substantially as claimed. Baum discloses an Apparatus (*fig. 10; the DHCP server is the network Apparatus*) comprising: an address management entity comprising at least one queue configured to hold released addresses (*fig. 10, items 1009-1014; par. 0100, and 0022, 0023; note the pool of available; unused IP addresses 1009, represents one queue that can be used for holding released or available addresses*) said address management entity configured to:

detect that a packet has been addressed to a released address held in the at least one queue (*par. 0101, and 0102; the IP address assignment request implies that the request in itself is made of packets that are addressed to the released queue 1009*).

Although it is understood that Baum teaches that the DHCP server 520 device removes the leased address from the pool, and add a new entry in the address lease information, Baum does not disclose specifically the step" return the held address to which the packet (*request for IP address assignment*) has been addressed to an end of the at least one queue".

In an analogous art, Donaldson shows a plurality of device addresses that are contained within a list (*queue*) and that IP an IP address detected by a sensor is appended back to an IP filtering list called a blacklist (*see Donaldson, column 8, lines 61-64; column 18, lines 24-26; and column 24, lines 39-41*). These techniques provide a performance improvement by quickly rejecting subsequent connections from IP addresses that have already been rejected (*or released from a host*) by one of the filtering tests and return to the back of the queue (*see Donaldson; column 8, lines 64-67*). Further, in the same field of endeavor, Takashaki discloses a system wherein the size of the at least one queue is variable and depends on stack implementations of correspondent nodes of previous users of released addresses (*see Takashaki, abstract; par. 0114, 0118, and 0120; note that the linked address lists are the stack implementations*). In an attempt to properly manage packet transfer accurately, this implementation makes sense.

Given both features of Takashaki and Donaldson, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system of detecting a released IP address of Baum to employ the features of Takashaki and Donaldson. This combination would facilitate increased security in a network thereby blocking relayed spam that involves databases of blacklisted IP addresses that can similarly be used to block packets (*see Donaldson; column 6, lines 14-21*), thereby reaching a leased IP address to detect fraudulent attempts to obtain an IP address in a network while providing security, screening and location verification services as stated by Baum in par. 0043. By this rationale, claim 1 is rejected.

Regarding **claims 2, and 4-9, 11-15, 17-22** the combination Baum-Donaldson-Takashaki discloses:

2. The network device according to claim 1, wherein said address management entity is further configured to :

detect that an address of a user has been released (*see Baum; par. 0022, 0023*);
and

add the released address to the end of the at least one queue (*see Donaldson, column 8, lines 61-64; column 18, lines 24-26; and column 24, lines 39-41; note that the released address of Baum employs the technique of appending the IP address of Donaldson*).

4. The network device according to claim 1, further comprising:
wherein said address management entity is further configured to:
send an error notification to a source of the packet (*see Donaldson; column 29, lines 56-62; note that the error message that is send to the remote host represents the error message notification and that the remote host is the source of the packet*) on that a packet has been addressed to the released address held in the at least one queue (*see Baum; par. 0101, and 0102*)). The same motivation and reason to combine utilized in the rejection of claim 1 is also valid for this claim. By this rationale, claim 4 is rejected.

5. The network device according to claim 1, wherein said address management entity is further configured to:

to detect that a packet has been addressed to the released address held in the at least one queue by receiving the packet addressed to the released address (*see Baum; par. 0101, and 0102; it is important to realize that the IP assignment request conveyed to the DHCP server contains the data packet addressed to the released address held*).

6. The network device according to claim 2, wherein said address management entity is further configured to:

to detect that an address of a user has been released by detecting a loss of a connection which releases its address (*see Baum; par. 0023; the loss of connection is assume to be the failure to receive a response from the user, and that the IP address assigned to the non-responding device is added back to the pool (queue) of available IP addresses*).

7. The network device according to claim 1, wherein said address management entity is further configured to:

to detect that a packet has been addressed to the released address held in the at least one queue (*see Baum; par. 0101, and 0102*) by receiving an error notification indicating an unused address (*see Donaldson; column 29, lines 56-62; note that the error message technique of Donaldson can be used for a variety of notification*

message types. In the context of combining Baum with Donaldson, it would have been obvious for an ordinary skill in the art to indicate an unused address utilized in Baum's system using the error notification mechanism of Donaldson). The same motivation and reason to combine utilized in the rejection of claim 1 is also valid for this claim. By this rationale, claim 7 is rejected.

8. The network device according to claim 2, wherein said address management entity is further configured to:

to detect that an address of a user has been released (see Baum; par. 0022, 0023); by receiving a notification thereon (see Donaldson; column 29, lines 56-62; note that the error message technique of Donaldson can be used for a variety of notification message types. In the context of combining Baum with Donaldson, it would have been obvious for an ordinary skill in the art to receive the notification utilized in Baum's system using the error notification mechanism of Donaldson). The same motivation and reason to combine utilized in the rejection of claim 1 is also valid for this claim. By this rationale, claim 8 is rejected.

9. An apparatus, comprising an address management entity configured to (see Baum, fig. 10):

receive a packet addressed to an unused address (see Baum; par. 0101, and 0102; note that the IP address assignment request implies that the request in itself is made

of packets that are addressed to and received by the released queue 1009 of the DHCP server 520); and

send an error notification to a network node for managing addresses, the error notification indicating the unused address (see Donaldson; column 29, lines 56-62; note that the error message technique of Donaldson can be used for a variety of notification message types. In the context of combining Baum with Donaldson, it would have been obvious for an ordinary skill in the art to indicate the unused address utilized in Baum's system using the error notification mechanism of Donaldson).

wherein the error notification causes a return of a released address held in a queue and corresponding to the unused address to an end of the queue, the queue holding released addresses (Baum, 0126 *see Donaldson; column 29, lines 56-62*), wherein the size of the queue is variable and depends on stack implementations of correspondent nodes of previous users of released addresses (see Takashaki, abstract; par. 0114, 0118, and 0120). The same motivation and reason to combine utilized in the rejection of claim 1 is also valid for this claim. By this rationale, claim 9 is rejected.

11. The network device according to claim 9, wherein said address management entity is further configured to:

detect a loss of a connection which releases its address (see Baum; par. 0023; the loss of connection is assume to be the failure to receive a response from the user,

and that the IP address assigned to the non-responding device is added back to the pool (queue) of available IP addresses); and

send a notification about the released address to the network node for managing addresses (*see Donaldson; column 29, lines 56-62; note that the error message that is send to the remote host represents the error message notification to the DHTP server node managing the addresses*). The same motivation and reason to combine utilized in the rejection of claim 1 is also valid for this claim. By this rationale, claim 11 is rejected.

12. The network device according to claim 9, wherein said address management entity is further configured to:

send an error notification to a source of the packet (see Donaldson; column 29, lines 56-62; note that the error message that is send to the remote host represents the error message notification and that the remote host is the source of the packet) upon receipt of the packet addressed to the unused address (see Baum; par. 0101, and 0102; note that the IP address assignment request implies that the request in itself is made of packets that are addressed to and received by the released queue 1009 of the DHCP server 520,). The same motivation and reason to combine utilized in the rejection of claim 1 is also valid for this claim. By this rationale, claim 12 is rejected.

13. A system for managing addresses to be assigned to users of an IP network (*see Baum, fig. 10*), comprising:

a first network node for managing addresses (*DHCP server 520*), the first network node comprising:

at least one queue for holding released addresses (*fig. 10, items 1009-1014; par. 0100, and 0022, 0023; note that the pool of available, unused IP addresses 1009, represents one queue that can be used for holding released or available addresses*);
said first network node configured to:

detect that a packet has been addressed to a released address held in the at least one queue (*par. 0101, and 0102; note that the IP address assignment request implies that the request in itself is made of packets that are addressed to the released queue 1009*); and

return the held address to which the packet has been addressed to an end of the at least one queue (*see Donaldson, column 8, lines 61-64; column 18, lines 24-26; and column 24, lines 39-41; note that the released address of Baum uses the technique of appending the IP address of Donaldson*); and

a second network node for forwarding IP data packets (*the edge router 600 of fig. 6 represents the second node*), the second network node configured to:

receive a packet addressed to an unused address (*see Baum, par. 101; the edge router responds as it receives the IP address assignment request; Baum teaches that this is done "as is known in the art using DHCP protocol"; the unused address that the request (packets) is addressed to resides in the DHCP server node disclosed above*); and

send an error notification to the first network node, the error notification indicating the unused address (*see Donaldson; column 29, lines 56-62; note that the error message technique of Donaldson can be used for a variety of notification message types. In the context of combining Baum with Donaldson, it would have been obvious for an ordinary skill in the art to indicate an unused address utilized in Baum's system using the error notification mechanism of Donaldson*). wherein the size of the queue is variable and depends on stack implementations of correspondent nodes of previous users of released addresses (*see Takashaki, abstract; par. 0114, 0118, and 0120*). The same motivation and reason to combine utilized in the rejection of claim 1 is also valid for this claim. By this rationale, claim 13 is rejected.

14. A method comprising :

detecting that a packet has been addressed to a released address held in a queue holding released addresses (*see Baum; par. 0101, and 0102; note that the IP address assignment request implies that the request in itself is made of packets that are addressed to the released queue 1009*); and

returning the held address, to which the packet has been addressed, to an end of the queue (*see Donaldson, column 8, lines 61-64; column 18, lines 24-26; and column 24, lines 39-41; note that the released address of Baum uses the technique of appending the IP address of Donaldson*). The same motivation and reason to combine utilized in the rejection of claim 1 is also valid for this claim. By this

rationale, claim 14 is rejected.

15. A method:

receiving a packet addressed to an unused address(see *Baum*; par. 0101, and 0102; note that the IP address assignment request implies that the request in itself is made of packets that are addressed to and received by the released queue 1009 of the DHCP server 520); and

sending an error notification to a network node configured to manage addresses, the error notification indicating the unused address (see *Donaldson*; column 29, lines 56-62; note that the error message technique of *Donaldson* can be used for a variety of notification message types. In the context of combining *Baum* with *Donaldson*, it would have been obvious for an ordinary skill in the art to indicate an unused address utilized in *Baum*'s system using the error notification mechanism of *Donaldson*). wherein sending the error notification further comprises causing a return of a released address held in a queue and corresponding to the unused address to an end of the queue, the queue holding released addresses (*Baum*, 0126 see *Donaldson*; column 29, lines 56-62), wherein the size of the queue is variable and depends on stack implementations of correspondent nodes of previous users of released addresses (see *Takashaki*, abstract; par. 0114, 0118, and 0120).

The same motivation and reason to combine utilized in the rejection of claim 1 is also valid for this claim. By this rationale, claim 15 is rejected.

17. A computer-readable program distribution medium encoding a computer program of instructions being configured to control a processor to perform:

detecting that a packet has been addressed to a released address held in a queue holding released addresses (*see Baum; par. 0101, and 0102; note that the IP address assignment request implies that the request in itself is made of packets that are addressed to the released queue 1009*); and

returning the held address, to which the packet has been addressed, to an end of the queue (*see Donaldson, column 8, lines 61-64; column 18, lines 24-26; and column 24, lines 39-41; note that the released address of Baum uses the technique of appending the IP address of Donaldson*). wherein the error notification causes a return of a released address held in a queue and corresponding to the unused address to an end of the queue, the queue holding released addresses (*Baum, 0126 see Donaldson; column 29, lines 56-62*), wherein the size of the queue is variable and depends on stack implementations of correspondent nodes of previous users of released addresses (*see Takashaki, abstract; par. 0114, 0118, and 0120*). The same motivation and reason to combine utilized in the rejection of claim 1 is also valid for this claim. By this rationale, claim 17 is rejected.

18. The computer program according to claim 17, further comprising a computer-readable medium on which the computer program of instructions are stored (*see Baum; fig. 10, within DHCP server 520, memory 1006 is used to store software code*

for storing IP addresses, information and software code for performing the steps of the invention).

19. The computer program according to claim 17, wherein the computer-readable distribution medium is configured to be directly loadable into an internal memory of the computer (*see Baum; fig. 10, within DHCP server 520, memory 1006*).

20. An apparatus, comprising:
holding means for holding released addresses (*see Baum; fig. 10, items 1009-1014; par. 0100, and 0022, 0023; note the pool of available; unused IP addresses 1009, represents one queue that can be used for holding released or available addresses*);
detecting means for detecting that a packet has been addressed to a released address held in the at least one holding means (*see Baum; par. 0101, and 0102; the IP address assignment request implies that the request in itself is made of packets that are addressed to the released queue 1009*). and
returning means for returning the held address to which the packet has been addressed to an end of the at least one holding mean (*see Donaldson, column 8, lines 61-64; column 18, lines 24-26; and column 24, lines 39-41*).

21. An apparatus, comprising:
receiving means for receiving a packet addressed to an unused address (*see Baum; par. 0101, and 0102; note that the IP address assignment request implies that the*

request in itself is made of packets that are addressed to and received by the released queue 1009 of the DHCP server 520); and

sending means for sending an error notification to a network node configured to manage addresses, the error notification indicating the unused address (see *Donaldson; column 29, lines 56-62; note that the error message technique of Donaldson can be used for a variety of notification message types. In the context of combining Baum with Donaldson, it would have been obvious for an ordinary skill in the art to indicate the unused address utilized in Baum's system using the error notification mechanism of Donaldson*). wherein the error notification causes a return of a released address held in a queue and corresponding to the unused address to an end of the queue, the queue holding released addresses (Baum, 0126 *see Donaldson; column 29, lines 56-62*), wherein the size of the queue is variable and depends on stack implementations of correspondent nodes of previous users of released addresses (see Takashaki, abstract; par. 0114, 0118, and 0120). The same motivation and reason to combine utilized in the rejection of claim 1 is also valid for this claim. By this rationale, claim 21 is rejected.

22. A system, comprising:

managing means for managing addresses (see Baum; *DHCP server 520*);

holding means for holding released addresses (see Baum; *fig. 10, items 1009-1014; par. 0100, and 0022, 0023; note the pool of available; unused IP addresses 1009, represents one queue that can be used for holding released or available addresses*);

detecting means for detecting that a packet has been addressed to a released address held in the holding means (see *Baum*; par. 0101, and 0102; note that the IP address assignment request implies that the request in itself is made of packets that are addressed to the released queue 1009);

returning means for returning the held address to which the packet has been addressed to an end of the at least one holding means (see *Donaldson*, column 8, lines 61-64; column 18, lines 24-26; and column 24, lines 39-41; note that the released address of *Baum* uses the technique of appending the IP address of *Donaldson*);

wherein the size of the at least one queue is variable and depends on stack implementations of correspondent nodes of previous users of released addresses (see *Takashaki*, abstract; par. 0114, 0118, and 0120;

receiving means for receiving a packet addressed to an unused address (see *Baum*; par. 0101, and 0102; note that the IP address assignment request implies that the request in itself is made of packets that are addressed to and received by the released queue 1009 of the DHCP server 520); and

sending means for sending an error notification to the managing means, the error notification indicating the unused address (see *Donaldson*; column 29, lines 56-62; note that the error message technique of *Donaldson* can be used for a variety of notification message types. In the context of combining *Baum* with *Donaldson*, it would have been obvious for an ordinary skill in the art to indicate the unused address utilized in *Baum*'s system using the error notification mechanism of *Donaldson*). The same

motivation and reason to combine utilized in the rejection of claim 1 is also valid for this claim. By this rationale, claim 22 is rejected.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from examiner should be directed to Jude Jean-Gilles whose telephone number is (571) 272-3914. The examiner can normally be reached on Monday- Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tonia Dollinger, can be reached on (571) 272-4170. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3301.

Art Unit: 2443

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-0800.

/Jude J Jean-Gilles/

Examiner, Art Unit 2443

JJG

January 14, 2009

/Tonia LM Dollinger/

Supervisory Patent Examiner, Art Unit 2443